

REMARKS

Claims 1-4, 6 and 7 are pending. Claim 5 has been canceled.

Claim 1 has been amended to clarify that the gel fraction is measured before dynamic crosslinking based on the disclosures in paragraphs 0017-0022 of the specification. Further, the rubber (B) has been restricted to an acryl rubber or hydrogenated nitrile copolymerized conjugated diene rubber, based on claim 5 as now deleted and working embodiments in which acryl rubber and hydrogenated nitrile rubber were used.

The dependency of claim 6 has been amended.

Further, new claim 7 has been added which corresponds to claim 1 but is rewritten to be in the process format.

Accordingly, no new matter has been presented by this amendment.

**Rejection under 35 U.S.C. §112, second paragraph**

The Examiner has rejected claims 1-6 under 35 U.S.C. §112, second paragraph, as being indefinite. Applicants respectfully traverse the rejection.

The Examiner asserts that claim 1 is indefinite, since the phrase "in which a gel fraction of 30 wt% or more" does not specify whether the gel fraction is measured before or after crosslinking.

In response, Applicants have amended claim 1 to clarify that the gel fraction is measured before dynamic cross-linking but after the gel-forming cross-linking. Support for this amendment can be found in paragraphs 0017-0022 of the specification.

Based on the foregoing, Applicants respectfully submit that the claims, as currently amended, particularly point out and distinctly claim the subject matter which Applicants regard as the invention. As such, withdrawal of the rejection is respectfully requested.

**Rejection under 35 U.S.C. §102/103 - Coran '379**

The Examiner has rejected claims 1, 5 and 6 under 35 U.S.C. §102(b) as being anticipated by or, in the alternative, under 35 U.S.C. §103(a) as being obvious over Coran et al. (US Pat. 4,197,379, hereinafter Coran '379). Applicants respectfully traverse the rejection.

The thermoplastic elastomer composition according to the present invention is obtained by specific process comprising the steps of

mixing the specific rubber (B) into a polyamide-based polymer (A1) and/or polyester-based polymer (A2) and  
dynamically cross-linking the rubber (B).

Particularly, the characteristic features of the present invention are in that the rubber (B) is preliminarily crosslinked so as to have a gel fraction of the rubber (B) of 30 wt% or more, and that this gel fraction is uniformly dispersed in the rubber (B). Further, the rubber (B) is an acryl rubber or hydrogenated nitrile copolymerized conjugated diene rubber.

Coran discloses an elastoplastic composition comprising a thermoplastic polyamide and nitrile rubber, which is obtained by mixing the rubber, inclusive of nitrile rubber, and polyamide followed by dynamic vulcanization.

The Examiner has taken the position that the gel content of the rubber is at least 80 percent. The Examiner has further indicated that the rubber may be crosslinked prior to mixing with the polyamide.

However, Applicants respectfully disagree with the Examiner. Coran does not teach or suggest the use of preliminarily crosslinked rubber as in the present invention. There is no such disclosure that "the rubber may be crosslinked prior to mixing with the polyamide" in the whole description of Coran.

Furthermore, the gel content of the rubber referred to by Coran must be that of rubber in

its final crosslinked stage. That is, the gel content of Coran is a description of the rubber after dynamically crosslinking. For example, the Examiner will note that the gel contents reported in the Tables of Coran show the rubber after dynamically crosslinking.

In addition, Coran does not teach or suggest the use of acryl rubber and hydrogenated nitrile rubber. That is, the nitrile rubbers used in Coran are non-hydrogenated nitrile rubbers. Accordingly, it is expected that the elastoplastic composition of Coran has inferior mechanical properties, fatigue resistance and heat resistance as compared with the inventive thermoplastic elastomer composition.

As the MPEP directs, all the claim limitations must be taught or suggested by the prior art to establish a *prima facie* case of anticipation or obviousness. See MPEP §§ 2131 and 2143.03. In view of the fact that Coran does not teach or suggest the use of preliminarily crosslinked rubber nor the gel fraction of the preliminarily crosslinked rubber as in the present invention, a *prima facie* case of anticipation or obviousness cannot be said to exist.

As such, withdrawal of the rejections is respectfully requested.

#### **Rejection under 35 U.S.C. §102/103 - Abraham '427**

The Examiner has rejected claims 1-6 under 35 U.S.C. §102(b) as being anticipated by or, in the alternative, under 35 U.S.C. §103(a) as being obvious over Abraham et al. (US Pat. 6,020,427, hereinafter Abraham '427). Applicants respectfully traverse the rejections.

Abraham discloses a carboxylated nitrile rubber thermoplastic vulcanizate compositions comprising polar thermoplastic high melting point crystalline polymers and carboxylated nitrile rubber dispersed therein. Abraham also teaches the use of carboxylated nitrile rubber, Nipol 1072 X 28, having gel content of 50 to 60 wt%.

However, Abraham fails to teach or fairly suggest the use of an acryl rubber and hydrogenated nitrile rubber. That is, nitrile rubbers used in Abraham are non-hydrogenated nitrile rubbers. Accordingly, it is expected that the thermoplastic vulcanizate composition of

Abraham is inferior in heat resistance and the like as compared with the inventive thermoplastic elastomer composition.

In view of the fact that Abraham does not teach or suggest the use an acryl rubber and hydrogenated nitrile rubber as in the present invention, a *prima facie* case of anticipation or obviousness cannot be said to exist.

As such, withdrawal of the rejections is respectfully requested.

#### **Provisional Obvious-Type Double Patenting Rejection**

The Examiner has provisionally rejected claims 1-6 on the ground of non-statutory obvious-type double patenting as being unpatentable over claims of copending Application No. 11/631,293 (hereinafter "the '293 application"). Applicants respectfully traverse the provisional rejection. The Examiner asserts that conflicting claims are not patentably distinct from each other because they contain overlapping subject matter.

Applicants respectfully disagree with the Examiner and find that the rejection is untenable in view of the differences between the present claims and the claims of the '293 application. The '293 application requires a polyester having a specific MFR range and the present claims are silent on this feature. Also, the present claims require a specific gel content range of rubber (B) and the claims of the '293 application are silent on this feature.

Simply because there is some overlap in the claims does not mean that obvious-type double patenting exists. The Examiner is required to find a reference which properly can be combined with the claims of the '293 application which teaches a specific gel content range of rubber (B) as presently claimed for there to be obviousness-type double patenting.

As such, withdrawal of the provisional rejection is respectfully requested.

For all the above-mentioned remarks, the present application is now deemed to be in condition for allowance and early notice to that effect is earnestly solicited.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Conclusion

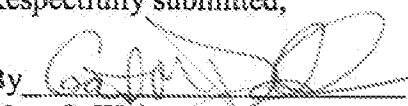
In view of the above remarks, it is believed that claims are allowable.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Garth M. Dahlen, Ph.D., Esq., Reg. No. 43,575 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

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Respectfully submitted,

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